Results of the Treatment of Experimental Herpes Keratitis with Poly I: C

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It is a constantly recurring experience in ophthalmological practice that herpetic keratitis is one of the most malicious inflammations of the cornea.

The most currently used medicament to combat the virus is still idoxuridine (IDU), which, however, proves to be adequate in not nearly all cases of keratitis. Other possibilities have, therefore, been looked for to influence the herpes virus therapeutically, via interferon. Interferon is a protein produced by the cells of the host himself under the influence of the presence of the virus; it inhibits via blockade of the polyribosomes, the synthesis of the viral ribonucleic acid, the RNA, in the cells. But the information of interferon can also be stimulated by various inductors, the most effective of which is poly I: C (an abbreviation of polyinosinic-polycytidylic acid).

Because so far only a few preliminary publications on the use of poly I: C have appeared, and every extension of the therapeutic possibilities in herpetic keratitis is highly welcome, we have decided to do experiments with poly I: C, in collaboration with the Department of Microbiology of the University Hospital of Leiden. It should be remarked that poly I: C is still very expensive and very difficult to work with in connection with its particular long-chain structure.

We started with systematic rabbit experiments in order to find out more of the therapeutic effect of poly I: C, combined or not combined with IDU.

Summarizing, we may say that poly I: C has a marked therapeutic effect in experimental herpetic keratoconjunctivitis, but that it can only effectively combat the infection if given in combination with IDU.

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A more detailed report of the results has been published elsewhere (Oosterhuis et al., 1974).

Reference

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J. A.

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